Attachment A
Information Requests (EPA, VDH)

Attachment A
SWIFTRC UIC Inventory Information Package Information Requests from EPA and VDH

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

June 28, 2016

Mr. Ted Henifin, P.E., General Manager
Hampton Roads Sanitation District
PO Box 5911
Virginia Beach, Virginia 23471-0911

Re: HRSD Sustainable Water Recycling Initiative

Dear Mr. Henifin,

We have received your letter dated May 23, 2016 regarding the HRSD ground water recharge project and appreciate the opportunity to offer this response. EPA agrees that a "tiered" approach to Underground Injection Control (UIC) program oversight of the shallow injection well aspect of this initiative is appropriate. Extending authorization by rule for one aquifer recharge well during the pilot or demonstration phase of the project provides EPA with the opportunity to utilize these results to render a more informed UIC permitting decision and public participation process for a full scale project.

We look forward to receiving the required UIC inventory information for the test injection well within the next 90 days. We understand that this information will include the results of the ongoing pilot advanced wastewater treatment system evaluation, an analysis of the compatibility of injected fluid with aquifer water quality, construction details of the pilot recharge well, a complete sampling/analysis and reporting plan, a description of the monitoring well network and a comprehensive assessment of any potential for the pilot aquifer recharge well to adversely impact underground sources of drinking water.

EPA is fully supportive of this effort to utilize shallow injection well technology for beneficial purposes. We look forward to continuing our work with HRSD and our counter parts within the Commonwealth of Virginia in this pursuit. Please direct all correspondence and inquiries to Mark Nelson in our Wheeling, WV office at 304 234-0286.

Sincerely,

Mark A. Nelson

for

Karen D. Johnson, Chief
Drinking Water/Ground Water Protection Branch
Water Protection Division

HRSD

Cleaning wastewater every day for a better Bay.

May 23, 2016

Karen D. Johnson, Chief
Drinking Water/Ground Water Protection Branch (3WP22)
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: HRSD Sustainable Water Recycling Initiative

Dear Ms. Johnson:

As you are aware, HRSD is pursuing an initiative to address a number of water related environmental issues in eastern Virginia including groundwater replenishment. The initiative would add advanced water treatment to several existing HRSD wastewater treatment facilities to produce water that is protective of human health and is fully compatible with the aquifer. This clean water would be injected into the Potomac aquifer at or near our existing treatment plants through a network of injection wells. Barring any unexpected and insurmountable challenges, HRSD proposes to be pumping over 100 million gallons of clean water into the Potomac aquifer on a daily basis by the year 2030. For a number of reasons, not the least of which is that the groundwater supply is being rapidly depleted, this initiative is being pursued on an accelerated schedule.

We are currently starting up two independent advanced water treatment pilot systems with the goal of selecting a treatment approach that will be implemented in a demonstration-scale facility sized to process approximately one million gallons per day. The demonstration project will include a test injection well combined with a monitoring well network to gather water level and water chemistry data for the full scale project. We anticipate construction of the demonstration project to begin in 2017 with it being fully operational in early 2018. Construction of the full-scale project is scheduled to begin in 2020, bringing facilities on-line throughout the planned 10-year implementation period.

In a planning meeting on Friday, May 13, 2016, we discussed the demonstration project and the entire initiative with Mark Nelson of your staff via conference call. During that discussion it appeared that the test injection well,that would be included with the demonstration project, could potentially be "authorized by rule" while the 25 to 30 wells that would support the full-scale project would require full permitting with appropriate public notice. That seems to be a sound approach from our perspective.

If you are in agreement with this approach, we will submit the required inventory information for the demonstration project test injection well within the next 90 days. Data gathered from the demonstration project injection and monitoring wells will be will be used to inform the permitting of the full-scale project wells. These data should be available to begin the

permitting process in late 2018 with the goal of receiving permits by late 2019 or early 2020. We welcome your guidance on this proposed schedule.

We will keep Mark informed of our progress throughout this initiative. A significant sampling and analysis plan has been developed for our advanced water treatment pilot systems to ensure we can produce water that is protective of human health while being compatible with the geochemistry, geology and native groundwater quality of the aquifer. Our initial analysis, based on existing groundwater data, indicates that total dissolved solids, sulfate, and chloride concentrations in the aquifer may already exceed established drinking water secondary maximum contaminant levels. Again, we look forward to working with your staff to develop appropriate injectate water quality standards to ensure we do no damage to the aquifer and protect human health while providing needed recharge for the Potomac aquifer.

We are working closely with the Virginia Department of Environmental Quality as well as the Virginia Department of Health, Office of Drinking Water in developing the pilot treatment processes and associated sampling and analysis plan. With as many as two hundred thousand private wells in the Potomac aquifer, protection and preservation of this critical public health resource is our primary goal. We are confident we can meet that goal while providing a needed new source of recharge to this seriously depleted aquifer.

I would like to express my appreciation for the time Mark has already provided us and his cooperative approach to this project. I look forward to working with Mark and your team to bring this important initiative to fruition.

Sincerely,

Ted Henifin, P.E.
General Manager

David Paylor, Director Virginia DEQ
Scott Kudlas, Director, DEQ Office of Water Supply
Mark Nelson, EPA Region 3

Holloway, Daniel/HRO

From: Douglas, Susan (VDH) <Susan.Douglas@vdh.virginia.gov>
Sent: Thursday, May 18, 2017 4:30 PM
To: Bott, Charles; Henifin, Ted
Cc: Moore, James (VDH); Holloway, Daniel/HRO
Subject: VDH request [EXTERNAL]

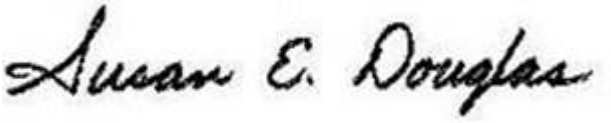
Importance: High

Ted & Charles;
I know you are very busy, but the Health Commissioner is requesting a summary of "data inventory" for the Demonstration Project at the Nansemond WWTP.
I spoke with Dan Holloway (CH2M), and he gave me a brief summary of what is planned. Would you please provide more details on:

1. Injection well construction details and operation plan during test period
2. Monitoring wells (number, location, size, screen depth, estimated construction dates, etc.)
3. Monitoring plan (sampling locations, sample collection method, constituents tested, frequency of sampling, duration of data collection)
4. Soil column testing plan (Dan mentioned you are planning some bench scale work to determine add'l aquifer treatment – glad to hear this)
5. Most recent estimates on time of travel; modelling improvements planned (this has been most problematic, I understand)
6. Potential adverse effects and mitigation measures (aquifer "conditioning" to stabilize clays, other?)

This information was also requested by EPA Region III for the 'permit by rule", so I hope that HRSD will be able to deliver it to us both very soon. Please let me know when you think you can have a draft to us for review.
Thank you.

PS: Our local health departments are continuing to assemble data on private wells within a 3 mile radius of the Nansemond aquifer recharge well (and the others). There are many, but so far the vast majority appear to be geothermal or irrigation wells near Nansemond.



Susan E. Douglas, P.E.
Director of Technical Services
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Virginia Department of Health
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